



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,933	08/12/2002	Karsten Reihs	785-010930-US (PAR)	1208
2512	7590	11/10/2005	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			BARTON, JEFFREY THOMAS	
			ART UNIT	PAPER NUMBER
			1753	
DATE MAILED: 11/10/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,933

Applicant(s)

REIHS ET AL.

Examiner

Jeffrey T. Barton

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31 and 37-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31, 37-41, 44 and 46-49 is/are rejected.
- 7) ☒ Claim(s) 42, 43 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 29 August 2005 does not place the application in condition for allowance.
2. Previous claim 36 is absent from the listing of claims presented in the Amendment filed on 29 August 2005. It appears as though cancellation was intended, as nearly all previous claims were cancelled. If this is not the case, rejection on previously presented grounds will be maintained for the same reasons presented below.

Status of Objections and Rejections Pending Since the

Office Action of 28 February 2005

3. The objections to claims 16, 25, 27, and 36 are obviated due to cancellation of the claims.
4. The rejections of claims 14-30 and 32-36 are obviated due to cancellation of the claims.
5. All other rejections are maintained.

Claim Objections

6. Claims 37 and 47-49 are objected to because of the following informalities:
 - a. At line 7, claim 37 recites "... the roll-off angle is a drop ...", although it seems "... the roll-off angle of a drop ..." was intended.

Art Unit: 1753

b. Claims 47-49, as written, are method claims dependent on apparatus claim 45. It appears that it was intended that claims 47 and 49 depend from claim 46, and the claims are treated as such herein.

c. There is no antecedent basis for "the screen of electrodes" in claim 49.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 31 and 37-49 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for water droplets behaving as claimed on an ultraphobic surface, does not reasonably provide enablement for such behavior in a generic "liquid", as currently claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The definition of "ultraphobic" given at page 3, lines 8-10 of the specification describes only the behavior of water on such a surface. There is no indication or description that any other liquid would meet the claim limitations as currently recited.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1753

12. Claims 37-40 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al in view of either Okumura et al or Onda et al.

Regarding claims 37 and 46, Becker et al disclose a substrate and method of moving liquid droplets thereon, wherein the substrate has several electrodes (Figure 12, electrodes 43) and varying voltages can be applied to the electrodes, resulting in an inhomogeneous field that causes droplet motion. (Column 7, line 42 - Column 8, line 5; Column 8, line 52 - Column 9, line 57) Becker et al disclose the desirability of the substrate having a hydrophobic surface, but require no coating in particular. (Column 11, line 62 - Column 12, line 22)

Regarding claims 38 and 39, Becker et al disclose several electrodes disposed in a regular array in the substrate, substantially aligned with the surface of the substrate. (Figures 5, 11, 12)

Regarding claims 47-49, Becker et al disclose moving droplets in any direction by applying varied voltages to the electrodes, including combining droplets. (Column 8, lines 3-5; Column 8, line 52 - Column 9, line 57; Figure 12; Column 22, lines 36-60)

Becker et al do not explicitly disclose their device having an "ultraphobic" surface with the properties listed in the claims.

Okumura et al disclose an insulating surface coating that provides a contact angle with water of about 150°. (Fluorocarbon polymers are insulating, Column 5, lines 3-10)

Onda et al disclose an insulating surface coating that provides a water contact angle as large as 174°. (Alkylketene dimer is insulating)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Becker et al by using an "ultraphobic" surface with water contact angles of 150° or more, as taught by Okumura et al or Onda et al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art. Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would allow higher-speed movement of the drops due to reduced friction between the droplet and the surface, enabling faster analyses and reactions. Becker suggests the desirability of increased droplet velocity at Column 9, lines 58-67.

Regarding the new limitations to a roll-off angle for a 10 µL drop of no more than 10°, and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such highly hydrophobic surfaces as those taught by Okumura et al and Onda et al.

Regarding claim 40, the surfaces of Okumura et al and (particularly) Onda et al are highly rough, which is part of the reason for their high hydrophobicity. Absent a showing to the contrary, the roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

13. Claims 37-40, 44, and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al in view of Ogawa et al.

The disclosure of Becker et al is as described above in paragraph 12.

Becker et al do not explicitly disclose their device having an “ultraphobic” surface with the properties listed in the claims.

Ogawa et al disclose an insulating ultraphobic surface with contact angle up to 171° (Abstract) that is applied to a sandblasted surface. Ogawa et al discuss that this is a known method of roughening surfaces to achieve greater hydrophobicity. (Column 7, lines 42-53)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Becker et al by using an “ultraphobic” surface with water contact angles of 170° or more, as taught by Ogawa et al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art. Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would allow higher-speed movement of the drops due to reduced friction between the droplet and the surface, enabling faster analyses and reactions. Becker suggests the desirability of increased droplet velocity at Column 9, lines 58-67.

Regarding the new limitations to a roll-off angle for a $10\ \mu\text{L}$ drop of no more than 10° , and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such a highly hydrophobic surface as that taught by Ogawa et al.

Regarding claim 40, the surfaces of Ogawa et al are highly rough, which is part of the reason for their high hydrophobicity. Absent a showing to the contrary, the

Art Unit: 1753

roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

14. Claims 37-41 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al in view of Clark et al.

The disclosure of Becker et al is as given above in paragraph 12.

Becker et al do not explicitly disclose their device having an "ultraphobic" surface with the properties listed in the claims.

Clark et al disclose an insulating surface coating, optionally formed from structured aluminum, that provides a contact angle with water of up to about 180°. (Column 4, line 62 - Column 5, line 15 - the boehmite produced by hydrolysis of aluminum will be insulating; Column 7, lines 26-31; Example 2; Table 2)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Becker et al by using an "ultraphobic" surface with water contact angles of up to 180°, as taught by Clark et al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art. Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would allow higher-speed movement of the drops due to reduced friction between the droplet and the surface, enabling faster analyses and reactions. Becker suggests the desirability of increased droplet velocity at Column 9, lines 58-67.

Regarding the new limitations to a roll-off angle for a 10 μ L drop of no more than 10°, and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such a highly hydrophobic surface as that taught by Clark et al.

Regarding claim 40, the surface of the coating of Clark et al is highly rough, which is part of the reason for its high hydrophobicity. Absent a showing to the contrary, the roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

15. Claims 37-40 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu in view of either Okumura et al or Onda et al.

Regarding claims 37 and 46, Washizu discloses a substrate and method of moving liquid droplets thereon, wherein the substrate has several electrodes (e.g. Figure 1) and varying voltages can be applied to the electrodes, resulting in an inhomogeneous field that causes droplet motion. (Figures 1 and 3) Washizu discloses the desirability of the substrate having a hydrophobic surface, and discusses highly hydrophobic surfaces such as those of Onda et al. (Page 734, 3rd-5th full paragraphs)

Regarding claims 38 and 39, Washizu discloses several electrodes disposed in a regular array (constant screen) in the substrate, substantially aligned with the surface of the substrate. (Figures 1, 3, and 5)

Regarding claims 47-49, Washizu discloses moving droplets in varied directions by applying different voltages to the electrodes, including combining droplets. (Figure 5)

Washizu does not explicitly disclose their device having an “ultraphobic” surface with the properties listed in the claims.

Okumura et al disclose a surface coating that provides a contact angle with water of about 150°.

Onda et al disclose a surface coating that provides a water contact angle as large as 174°.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Washizu by using an “ultraphobic” surface with water contact angles of 150° or more, as taught by Okumura et al or Onda et al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art, especially one specifically discussed by Washizu. (Onda et al) Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would lower the actuation force needed to cause motion of the drops due to reduced friction between the droplet and the surface. Washizu teaches this way of reducing actuation force. (Paragraph bridging pages 733 and 734, criterion 1)

Regarding the new limitations to a roll-off angle for a 10 μ L drop of no more than 10°, and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such highly hydrophobic surfaces as those taught by Okumura et al and Onda et al.

Art Unit: 1753

Regarding claim 40, the surfaces of Okumura et al and (particularly) Onda et al are highly rough, which is part of the reason for their high hydrophobicity. Absent a showing to the contrary, the roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

16. Claims 37-40, 44, and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu in view of Ogawa et al.

The disclosure of Washizu is as described above in paragraph 15.

Washizu does not explicitly disclose their device having an "ultraphobic" surface with the properties listed in the claims.

Ogawa et al disclose an ultraphobic surface with contact angle up to 171° (Abstract) that is applied to a sandblasted surface. Ogawa et al discuss that this is a known method of roughening surfaces to achieve greater hydrophobicity. (Column 7, lines 42-53)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Washizu by using an "ultraphobic" surface with water contact angles of 170° or more, as taught by Ogawa et al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art. Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would lower the actuation force needed to cause motion of the drops due to reduced friction between the droplet and the surface.

Washizu teaches this way of reducing actuation force. (Paragraph bridging pages 733 and 734, criterion 1)

Regarding the new limitations to a roll-off angle for a 10 μ L drop of no more than 10°, and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such a highly hydrophobic surface as that taught by Ogawa et al.

Regarding claim 40, the surfaces of Ogawa et al are highly rough, which is part of the reason for their high hydrophobicity. Absent a showing to the contrary, the roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

17. Claims 37-41 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu in view of Clark et al.

The disclosure of Washizu is as described above in paragraph 15.

Washizu does not explicitly disclose their device having an “ultraphobic” surface with the properties listed in the claims.

Clark et al disclose a surface coating, optionally formed from structured aluminum, that provides a contact angle with water of up to about 180°. (Column 4, line 62 - Column 5, line 15; Column 7, lines 26-31; Example 2; Table 2)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Washizu by using an “ultraphobic” surface with water contact angles approaching 180°, as taught by Clark et

Art Unit: 1753

al, because given the disclosed desirability of hydrophobic surfaces, it would be within the abilities of a skilled artisan to choose a suitable coating from among hydrophobic coatings known in the prior art. Furthermore, in the case of aqueous fluid manipulation, higher degrees of hydrophobicity would lower the actuation force needed to cause motion of the drops due to reduced friction between the droplet and the surface.

Washizu teaches this way of reducing actuation force. (Paragraph bridging pages 733 and 734, criterion 1)

Regarding the new limitations to a roll-off angle for a 10 μ L drop of no more than 10°, and no liquid residues left by a moving droplet, absent a showing to the contrary, these are considered to be inherent in such a highly hydrophobic surface as that taught by Clark et al.

Regarding claim 40, the surface of the coating of Clark et al is highly rough, which is part of the reason for its high hydrophobicity. Absent a showing to the contrary, the roughness of these surfaces is considered by the examiner to meet the limitations of this claim.

18. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al and any one of Okumura et al, Onda et al, Ogawa et al, or Clark et al, as applied to claim 46 above, and further in view of Wilding et al.

The disclosures of Becker et al, Okumura et al, Onda et al, Ogawa et al, and Clark et al are as given above in paragraphs 12-14. The system of Becker et al is

Art Unit: 1753

disclosed as a general reaction system, without mention of any specific type of reaction to be carried out.

Wilding et al describe various biological reactions and analyses suitable for small-scale processing in a microfluidic device in their Background and Summary sections, including the processes specified in these claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Becker et al to carry out the processes described by Wilding et al, because one having ordinary skill in the art would be able to choose a reaction to be performed. Becker et al disclose their device as a reactor (e.g. Column 22, lines 36-49), and did not limit the reaction to any specific type, leaving the decision on the specific application up to a skilled artisan.

19. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu and any one of Okumura et al, Onda et al, Ogawa et al, or Clark et al, as applied to claim 46 above, and further in view of Wilding et al.

The disclosures of Washizu, Okumura et al, Onda et al, Ogawa et al, and Clark et al are as given above in paragraphs 15-17.

The system of Washizu is disclosed as a general reaction system, without mention of any specific type of reaction to be carried out, although biochemical reactions are suggested. (e.g. Page 732, final paragraph of the Introduction)

Wilding et al describe various biological reactions and analyses suitable for small-scale processing in a microfluidic device in their Background and Summary sections, including the processes specified in these claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Washizu to carry out the processes described by Wilding et al, because one having ordinary skill in the art would be able to choose a reaction to be performed. Washizu discloses his device as a reactor (e.g. Title), and did not limit the reaction to any specific type, leaving the decision on the specific application up to a skilled artisan.

Allowable Subject Matter

20. Claims 42, 43, and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter:

The only prior art of record that teaches ultraphobic surfaces of the type required in these claims were the Reihs et al references (WO 00/39368, DE 198 60 139, and DE 198 60 135, respectively) that no longer constitute prior art, due to Applicant's submission of a certified translation of Priority Document DE 199 47 788.4. This priority document is fully supportive of these claims as currently recited. Priority benefits

Art Unit: 1753

extend to 5 October 1999, precluding the use of these references, which were published in 2000.

Response to Arguments

22. Applicant's arguments filed on 29 August 2005 have been fully considered but they are not persuasive.

The new limitations cannot be considered to patentably distinguish over the prior art of record, since they simply enumerate analytical results that were not specifically determined for the prior art surfaces. Clean, highly hydrophobic surfaces, such as those disclosed in the teaching references cited above, would reasonably be expected to have roll-off angles and liquid residue prevention properties similar to other "ultraphobic" surfaces. Absent a showing to the contrary, they are considered to inherently possess these properties.

Applicant traverses the rejections by stating that accuracy, not speed (as cited by the Examiner) is an important object of the invention, and that the "mere matter of design choice" argument has been rejected as a basis for rejection, citing pertinent case law.

Whether or not it is pertinent to Applicant's disclosure, Becker et al suggests the desirability of increased droplet velocity at Column 9, lines 58-67, and the highly hydrophobic surfaces would allow increased velocity, due to reduced friction. This provides a motivation for combination as described above, and the combination meets all claim limitations.

Regarding the "mere matter of design choice" arguments, this was not the sole basis for any of the rejections. The basis for rejection is a proper motivation as required by 35 U.S.C. §103. Since Becker et al and Washizu do not describe the surface coatings in their systems in detail, a skilled artisan would turn to the prior art for suitable surface coatings. Each teaching reference teaches the advantage of their coating in being exceptionally hydrophobic, which provides the advantages cited in the rejections. Therefore, a skilled artisan would be motivated to modify the systems as described above.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey Barton, whose telephone number is (571) 272-1307. The examiner can normally be reached Monday-Friday from 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached at (571) 272-1342. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

JTB
3 November 2005


ALAN DIAMOND
PRIMARY EXAMINER
Tech Center 1700